

We claim:

1. A recording medium including recorded data, comprising:
 - an information area for recording disc management information and/or data, the information area includes a lead-in area, a data area, and a lead-out area; and
 - physical mark information, recorded as a wobbled pit pattern in an area preceding the lead-in area, in the lead-in area, in the data area, in the lead-out area, or in an area following the lead-out area of the information area.
2. A recording medium according to claim 1, wherein the physical mark information is not in a writable area.
3. A recording medium according to claim 1, wherein the physical mark information includes information identifying the recording medium type.
4. A recording medium according to claim 1, wherein the physical mark information is recorded as a pattern representing duplication preventing information.
5. A recording medium according to claim 1, wherein the physical mark information is recorded as mark/space with respect to a

high-frequency-modulated groove.

6. A recording medium according to claim 5, wherein the mark/space are aligned with one another in each recording field of a high-frequency-modulated groove.

7. A recording medium according to claim 5, wherein the physical mark information is recorded as at least one mark/space, wherein each mark/space pair include a mark and a space each having an variable length.

8. A recording medium according to claim 7, wherein each mark and space of the mark/space pairs are aligned with one another in each recording field of a high-frequency-modulated groove.

9. A recording medium according to claim 8, wherein a length of the mark and space of each recording field is determined to be a different length in accordance with a data value associated with the recording field.

10. A recording medium according to claim 1, wherein the physical mark information is detected at an initial stage of a servo operation carried out in an optical disc apparatus, separately from a decoding operation to be carried out in the optical disc apparatus.

11. A recording medium according to claim 1, wherein the physical mark information is in an area of the disc where writing of data is impossible after manufacture of the recording medium, the physical mark information is a BD-ROM identification area (ROMID), and the recording medium is a read-only recording medium.

12. A recording medium according to claim 1, wherein the physical mark information is in an area of the disc where writing of data is possible only once after manufacture of the recording medium, the physical mark information is a BD-R identification area (RID), and the recording medium is a write-once recording medium.

13. A method of forming a recording medium, comprising:

 forming an information area for recording disc management information and/or data, the information area includes a lead-in area, a data area, and a lead-out area; and

 forming physical mark information as a wobbled pit pattern in an area preceding the lead-in area, in the lead-in area, in the data area, in the lead-out area, or in an area following the lead-out area of the information area of the information area.

14. A method of claim 13, wherein the physical mark information is formed as a pattern representing duplication preventing information.

15. A method of claim 13, wherein the physical mark information is

formed as mark/space with respect to a high-frequency-modulated groove

16. A method of claim 15, wherein the mark/space are aligned with one another in each recording field of a high-frequency-modulated groove.

17. A method of claim 1, wherein the physical mark information is formed to be detected at an initial stage of a servo operation carried out in an optical disc apparatus, separately from a decoding operation to be carried out in the optical disc apparatus.

18. A method of claim 1, wherein the physical mark information is formed in an area of the disc where writing of data is impossible after manufacture of the recording medium, the physical mark information is a BD-ROM identification area (ROMID), and the recording medium is a read-only recording medium.

19. A method of claim 1, wherein the physical mark information is in an area of the disc where writing of data is possible only once after manufacture of the recording medium, the physical mark information is a BD-R identification area (RID), and the recording medium is a write-once recording medium.

20. A method of reproducing data from a recording medium, comprising:

utilizing physical mark information to control reproduction of the recorded data, wherein physical mark information has been recorded as a wobbled pit pattern in an area of the recording medium.

21. A recording medium according to claim 20, wherein the physical mark information has been recorded as a pattern representing duplication preventing information.

22. A recording medium according to claim 20, wherein the physical mark information has been recorded as mark/space with respect to a high-frequency-modulated groove

23. A recording medium according to claim 22, wherein the mark/space are aligned with one another in each recording field of a high-frequency-modulated groove.

24. A method of claim 20, wherein the physical mark information is detected at an initial stage of a servo operation carried out in an optical disc apparatus, separately from a decoding operation to be carried out in the optical disc apparatus.

25. A method of claim 20, wherein the physical mark information is reproduced from an area of the disc where writing of data is impossible after manufacture of the recording medium, the physical mark information is a BD-ROM identification area (ROMID), and the recording

medium is a read-only recording medium.

26. A method of claim 20, wherein the physical mark information is reproduced from an area of the disc where writing of data is possible only once after manufacture of the recording medium, the physical mark information is a BD-R identification area (RID), and the recording medium is a write-once recording medium.

27. A method of recording data on a recording medium, comprising:
recording the data in an information area, which includes a lead-in area, a data area, and a lead-out area; and
recording physical mark information as a wobbled pit pattern in an area of the information area, which controls reproduction of the recorded data.

28. A recording medium according to claim 27, wherein the physical mark information is recorded as a pattern representing duplication preventing information.

29. A recording medium according to claim 27, wherein the physical mark information is recorded as mark/space with respect to a high-frequency-modulated groove

30. A recording medium according to claim 29, wherein the mark/space are aligned with one another in each recording field of a

high-frequency-modulated groove.

31. A method of claim 27, wherein the physical mark information is recorded to be detected at an initial stage of a servo operation carried out in an optical disc apparatus, separately from a decoding operation to be carried out in the optical disc apparatus.

32. A method of claim 27, wherein the physical mark information is recorded in an area of the disc where writing of data is impossible after manufacture of the recording medium, the physical mark information is a BD-ROM identification area (ROMID), and the recording medium is a read-only recording medium.

33. A method of claim 27, wherein the physical mark information is recorded in an area of the disc where writing of data is possible only once after manufacture of the recording medium, the physical mark information is a BD-R identification area (RID), and the recording medium is a write-once recording medium.

34. An apparatus for reproducing data from a recording medium, said apparatus utilizing physical mark information to control reproduction of the recorded data, wherein the physical mark information has been recorded as a wobbled pit pattern in an area of the recording medium.

35. An apparatus of claim 34, wherein the physical mark information

has been recorded as a pattern representing duplication preventing information.

36. An apparatus of claim 34, wherein the physical mark information has been recorded as mark/space with respect to a high-frequency-modulated groove

37. An apparatus of claim 36, wherein the mark/space are aligned with one another in each recording field of a high-frequency-modulated groove.

38. An apparatus of claim 34, wherein the physical mark information is detected at an initial stage of a servo operation carried out in an optical disc apparatus, separately from a decoding operation to be carried out in the optical disc apparatus.

39. An apparatus of claim 34, wherein the physical mark information is reproduced from an area of the disc where writing of data is impossible after manufacture of the recording medium, the physical mark information is a BD-ROM identification area (ROMID), and the recording medium is a read-only recording medium.

40. An apparatus of claim 34, wherein the physical mark information is reproduced from an area of the disc where writing of data is possible only once after manufacture of the recording medium, the physical

mark information is a BD-R identification area (RID), and the recording medium is a write-once recording medium.